



INFORMATION SCIENCES
AND
TECHNOLOGY



Building Leaders for the Digital Global Economy

<http://www.ds.psu.edu/ist>

PROGRAM GUIDE

WHAT'S INSIDE?

WHAT IS IST?
PROGRAM OVERVIEW
COURSE SEQUENCE
TECH PREP CONNECTION
CAREER CONNECTION
AVAILABLE LABORATORY RESOURCES





The philosophy of Penn State's School of Information Sciences and Technology (IST) is to build "Leaders for a Digital Global Economy". The IST faculty at Penn State DuBois models that belief by developing a curriculum that helps students develop the following skills:

- learning and managing the ever changing new technologies in the information technology field;
- bridging the communication gap between business professionals and information technology professionals;
- focusing on the application of technology as a solution;
- learning to work on industry problems in a team atmosphere; and
- polishing oral and written communication skills.

The Penn State DuBois campus offers three options of the IST Associate Degree. The options are *networking*, *generalized business*, and *baccalaureate*. Each option has the same core introductory courses. These courses include an introduction to IST, database design, webpage development, and networking. Along with these introductory courses, each student takes a software development course. This course consists of multiple industry projects that students will study and learn to manage.

The first option is *networking*, which trains students for entry into the fields of network administration and systems support. Coursework includes PC hardware, networking essentials, network administration, and other supporting topics. The campus has an interactive networking lab equipped to provide students hands on activities to expand upon classroom theories of networking. These activities aid students in dealing with real world problems, situations and solutions and allow learning to happen beyond simply "chalk and talk" of the traditional college classroom. The layout of the lab is such that each row becomes a local area network containing five workstations and a server class machine in a server rack. Each rack contains network equipment including a switch, multiple hubs, and a router. This is very typical of what students will encounter in the workplace.

In addition to the network lab, the program has two other dedicated IST computer labs. The first lab is the software lab where students learn application skills including database and website development. The second dedicated IST computer lab is the teardown lab specifically designed to allow students to dismantle PCs, servers and other hardware devices, to create fiber optic cables and conduct other lab exercises needing specialized tools.

Having graduated with an IST networking associate degree from Penn State DuBois, the student will be able to do the following:

- install, manage, and troubleshoot PCs with multiple operating systems including Windows 98, NT, ME, 2000, and XP;
- develop an in-dept network design using Microsoft Visio;
- transfer the network design to Netcracker, a network simulator, and to test their design;
- run network cable (CAT 6 and fiber optic);



- design, implement, and manage networks using Microsoft Servers 4.0, 2000, 2003, and Red Hat 9.0 Linux;
- configure and manage hubs, switches, routers, and other network equipment using Routersim and Network Visualizer (Cisco network simulators) and performing the same tasks on the actual equipment in the lab;
- plan and implement wireless networks;
- implement the following specialize servers:
 - web servers (Microsoft IIS and Red Hat 9.0);
 - email servers (Microsoft exchange server 2000 and 2003);
 - database servers (Microsoft SQL 2000 server);
 - ftp servers (Microsoft IIS and Red Hat 9.0);
 - Microsoft Business Solutions–Retail Management System.
 - Microsoft Business Solutions–Great Plains
- use Microsoft Project to manage projects.

An overview schedule of the network option is attached in Appendix A1 and descriptions of the courses are located in Appendix B. Appendix D consists of a partial list of possible job titles for which networking graduates may qualify.

Through the *generalized business option* students can increase their knowledge of information systems while furthering their studies in the business areas of management, accounting, and marketing. The overview of this program option is included in Appendix A2.

Lastly, Penn State DuBois offers a *baccalaureate option* that allows students to graduate with an associate degree in IST which then fulfills the requirements for the first 2 years of the Bachelors of Science degree in IST. Appendix A3 contains this option's sequence of courses.

An IST associate degree student must complete IST 295A or IST 295B, both of which are one credit courses which entail 150 internship hours. The intern is required to perform the following activities:

- keep a daily log;
- get a mid-point and a final evaluation from their internship supervisor;
- write a mid-point and final paper on the internship experience; and
- give a 5 to 10 minute presentation on their internship experience to an IST class.

A Penn State DuBois IST student has many resources at their disposal. These include hardware and software used in industry, ITS Free Technology Seminar Handouts, and other materials. Detailed lists of these resources are located in Appendix C.

After receiving an associate degree from Penn State DuBois, students have the ability to further their studies by enrolling in an IST four year degree at the Penn State DuBois campus and another Penn State campus including University Park. With an agreement with the Penn State New Kensington, the Penn State DuBois campus offers IST's four



year degree with the Information Technology Integration Option. Appendix A7 and A8 contains the suggested for this option. Also, The Penn State DuBois campus offers students the introductory courses for the IST four year degrees. Appendix A4 contains the schedule of the first 2 years of those introductory courses. For those students who want the baccalaureate degree and networking courses from the networking option, Appendix A5 contains a suggested schedule.

Penn State DuBois offers another option for those IST students who want a baccalaureate degree after receiving an associate degree in IST and wants to stay at the DuBois campus. The departments of IST and Business collaborated to offer an IST/Business 2+2 degree option. In four years, a student can receive an associate degree in IST and a baccalaureate degree in Business. Appendix A6 contains the suggested schedule for those students who are interested in this option.

Another option for DuBois IST students is to earn a bachelors of Arts in Letters, Arts, and Sciences. Along with the associates in IST, the Letters, Arts, and Sciences program helps graduates prepare for careers that require creativity, thought, and the ability to work with a wide range of people. A suggested schedule for this option is available upon request.

Penn State DuBois IST Contacts

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The Tech Prep Connection

Information Sciences and Technology (IST) is a Penn State DuBois Tech Prep program. You may be asking yourself just what Tech Prep is and what is it all about. This section answers most of your questions. If you would like additional information about Tech Prep, a list of contacts is provided at the end of this section.

What Is Tech Prep?

Tech Prep, short for Technology Preparation, does not mean preparation for technical school, but preparation for careers in technology! Tech Prep is a rigorous course of study, beginning as early as 9th grade and no later than 11th grade, that combines academic and technical training to provide students with the advanced technical skills necessary for today's technical job market.

Think of it as a 2+2+2 career guidance program. Students take at least two years of an accredited high school program and, upon successful completion, students can choose to continue with their education at Penn State DuBois, or are well prepared to enter any other institution of higher learning. After earning an associate degree at Penn State DuBois, students can enter the workplace with the skills necessary for success in a number of interesting and challenging careers. Or, a student may proceed on and continue their education and earn a full four-year degree.

The Benefits Of Tech Prep

Choice, challenge, relevance and quality are all benefits of Tech Prep. By choosing a challenging educational program, students gain both academic and technical skills as they earn a marketable degree.

By following a sequential course of study, students are able to reduce overlapping between high school and college courses. Moreover, as a >seamless= program, the student who successfully completes the secondary component is automatically accepted to Penn State DuBois, pending completion of the admissions process.

With these incentives to success, Tech Prep students save time and money while preparing for challenging careers. In addition, because of collaboration with business and industry leaders, Tech Prep programs are relevant to the world of work. Tech Prep graduates find rewarding and challenging jobs in their major after completing their chosen course of study.

Is Tech Prep For Me?

Yes - if you like hands-on activities, enjoy working with technology and want a rewarding career. Tech Prep is designed for students with an interest in technical careers. But it is not a watered down program. It stresses high levels of math, science,

communication, and technical skills, but offers them in a streamlined way so the student is prepared for the job market after receiving the associate degree. However, students have the option of continuing on and completing a full baccalaureate degree as well.

Today, many business and industry leaders agree that workers need an education, but not necessarily a four year degree. Recent data from the U.S. Bureau of Labor Statistics shows a strong growth trend toward highly skilled technologists, specialists, and paraprofessionals. Between 1998 and 2008, employment opportunities for individuals with associate degrees are expected to increase approximately 31 percent.*

*Source: The Pennsylvania Department of Labor and Industry

What Makes Tech Prep So Unique?

The strength of the Tech Prep program is its unique partnership between secondary and postsecondary faculty and local business and industry leaders. Working together, these groups create programs of study that address current workforce needs and future trends.

Each Tech Prep program has its own scope of courses so students can acquire the education they need for success in that particular field. These courses are offered in a specific sequence so students can build a strong knowledge base in a timely manner.

Do All Schools Have Tech Prep Programs?

No, not all high schools have this program. A school that offers Tech Prep has made a commitment to offering its students a high quality program built on rigor and skills. Teachers, guidance personnel and administrators have all worked hard to prepare a program to give students a great high school education. They have worked to earn a special agreement between their high school and Penn State DuBois called an Articulation Agreement. To find out if your school has an articulation with Penn State DuBois in Information Sciences and Technology, check with your guidance counselor or principal.

Penn State DuBois Tech Prep Contacts

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Appendix A1. Network Option

The Networking Option trains students for entry into network administration and systems support fields.

Networking Option		Credits 60	
Semester 1		Semester 2	
Course	Credits	Course	Credits
IST 110*	3	IST 210*	4
IST 111	1	IST 220*	3
IST 250	3	MATH 021 or 022 or 026	3
CMPSC 101*	3	CAS 100	3
ENGL 015 (GWS)	3	GEN ED - NAT SCI (GN)	3
Total	13	Total	16
Summer			
Course	Credits		
IST 295A or 295B	1		
IST Internship (150 hours)			
Semester 3		Semester 4	
Course	Credits	Course	Credits
IST 225	3	IST 227	3
IST 226	3	IST 228	3
IST 260W	3	GEN ED - SOC/BEHAV SCI (GS)	3
GEN ED - ARTS (GA)	3	ENGL 202C or 202D	3
GEN ED - HUMANITIES (GH)	3	FOREIGN CULTURE (US/IL/USI)	3
Total	15	Total	15

*Must be completed with a grade of C or better

**Must be one of the following:

GN: Natural Sciences

GA: Arts

GH: Humanities

GS: Social and Behavioral Sciences

US or IL or USI

- **US:** United States Cultures

- **IL:** International Cultures

- **USI:** United States and International Cultures

Appendix A2. Generalized Business Option

The Business Option allows students to specialize in business areas of accounting, marketing, and management.

Business Option	Credits	60		
Semester 1			Semester 2	
Course	Credits		Course	Credits
IST 110*	3		IST 210*	4
IST 111	1		IST 220*	3
IST 250	3		Business Option**	3
CMPSC 101*	3		CAS 100	3
ENGL 015 (GWS)	3		GEN ED - NAT SCI (GN)	3
Total	13		Total	16

Summer

Course	Credits
---------------	----------------

IST 295A or 295B	1
IST Internship (150 hours)	

Semester 3

Semester 4

Course	Credits	Course	Credits
Business Option**	3	Business Option**	3
Business Option**	3	Business Option**	3
IST 260W	3	GEN ED - SOC/BEHAV SCI (GS)	3
GEN ED - ARTS (GA)	3	ENGL 202C or 202D	3
GEN ED - HUMANITIES (GH)	3	FOREIGN CULTURE (US/IL/USI)	3
Total	15	Total	15

*Must be completed with a grade of C or better

***Must complete 15 credits in the following list:

GN: Natural Sciences

GA: Arts

GH: Humanities

GS: Social and Behavioral Sciences

US or IL or USI

- **US:** United States Cultures

- **IL:** International Cultures

- **USI:** United States and International Cultures

***Must complete 15 credits in the following list:

MKTG 150, 180, 190, 220, 221, 310, 327

MGMT 100, 150, 321, 341

BA 250

ECON 002, 004, 014

MATH 021, 022, 26

Appendix A3. Baccalaureate Option

The Baccalaureate Option allows students to graduate with an associate degree in IST which fulfills the requirements of the first two years of the Bachelor of Science degree in IST.

Baccalaureate Option	Credits 60		
Semester 1		Semester 2	
Course	Credits	Course	Credits
IST 110*	3	IST 210*	4
IST 111	1	IST 220*	3
IST 250	3	STAT 200	3
CMPSC 101*	3	CAS 100	3
ENGL 015 (GWS)	3	GEN ED - NAT SCI (GN)	3
Total	13	Total	16

Summer

Course	Credits
IST 295A or 295B	1
IST Internship (150 hours)	

Semester 3		Semester 4	
Course	Credits	Course	Credits
ECON 2	3	IST 230+	3
MATH 110 or 140+	4	IST 240+	3
IST 260W	3	GEN ED - SOC/BEHAV SCI (GS)	3
GEN ED - ARTS (GA)	3	ENGL 202C or 202D	3
GEN ED - HUMANITIES (GH)	3	FOREIGN CULTURE (US/IL/USI)	3
Total	15	Total	15

*Must be completed with a grade of C or better

**Must be one of the following:

- GN:** Natural Sciences
- GA:** Arts
- GH:** Humanities
- GS:** Social and Behavioral Sciences
- US or IL or USI**
- **US:** United States Cultures
- **IL:** International Cultures
- **USI:** United States and International Cultures

Appendix A4. First 2 Years of the Baccalaureate Degree

INFST	Credits	65		
Semester 1			Semester 2	
Course	Credits		Course	Credits
IST 110*	3		IST 210*	4
IST 111	1		IST 220*	3
ENGL 015	3		FOREIGN LANG.	4
CMPSC 101*	3		ECON 002 or 004 or 014	3
FOREIGN LANG.	4		MATH 110 or 140+	4
Total	14		Total	18
Summer				
Course	Credits			
IST 295A or 295B***	1			
IST Internship (150 hours)				
Semester 3			Semester 4	
Course	Credits		Course	Credits
FOREIGN LANG.	4		IST 230+	3
CAS 100	3		IST 240+	3
GN, GA, GH, GS, US/IL**	3		STAT 200	4
GN, GA, GH, GS, US/IL**	3		GN, GA, GH, GS, US/IL**	3
GN, GA, GH, GS, US/IL**	3		GN, GA, GH, GS, US/IL**	3
Total	16		Total	16

*Must be completed with a grade of C or better

**Must be one of the following:

GN: Natural Sciences

GA: Arts

GH: Humanities

GS: Social and Behavioral Sciences

US or IL or USI

- **US:** United States Cultures

- **IL:** International Cultures

- **USI:** United States and International Cultures

*** You need 1 credit of 495 A/B or 2 credits of 295 A/B

+ Course has prerequisite

Appendix A5. First 2 Years of the Baccalaureate Degree and Networking Courses

INFST + Network Courses

Credits 65

Semester 1

Course	Credits
IST 110*	3
IST 111	1
ENGL 015	3
CMPS 101*	3
FOREIGN LANG.	4

Total 14

Semester 2

Course	Credits
IST 210*	4
IST 220*	3
FOREIGN LANG.	4
ECON 002,004, 014	3
MATH 110 or 140+	4

Total 18

Summer

Course Credits

IST 295A or 295B***	1
IST Internship (150 hours)	

Semester 3

Course	Credits
IST 225++	3
IST 226++	3
FOREIGN LANG.	4
CAS 100	3
GN, GA, GH, GS, US/IL**	3

Total 16

Semester 4

Course	Credits
IST 227++	3
IST 228++	3
STAT 200	4
IST 240	3
IST 230	3

Total 16

*Must be completed with a grade of C or better

**Must be one of the following:

GN: Natural Sciences

GA: Arts

GH: Humanities

GS: Social and Behavioral Sciences

US or IL or USI

- **US:** United States Cultures

- **IL:** International Cultures

- **USI:** United States and International Cultures

*** You need 1 credit of 495 A/B or 2 credits of 295 A/B

+ Course has prerequisite

Appendix A6. 2 + 2 IST Associate (Networking) and Business Baccalaureate Degree

2IST Networking Option

Credits 63

Semester 1

Course	Credits
IST 110*	3
IST 111	1
IST 250	3
CMPSC 101*	3
ENGL 015 (GWS)	3
MATH 021	3
Total	16

Semester 2

Course	Credits
IST 210*	4
IST 220*	3
MATH 022	3
CAS 100	3
GEN ED - NAT SCI (GN)	3
Total	16

Summer

Course	Credits
IST 295A or 295B	1
IST Internship (150 hours)	

Semester 3

Course	Credits
IST 225	3
IST 226	3
IST 260W	3
GEN ED - ARTS (GA)	3
GEN ED - HUMANITIES (GH)	3
Total	15

Semester 4

Course	Credits
IST 227	3
IST 228	3
ECON 2	3
ENGL 202C or 202D	3
FOREIGN CULTURE (US/IL/USI)	3
Total	15

BBACC COMMONWEALTH COLLEGE

2IST Network Option Requirements Finished

Semester 5

Course	Credits
ACCTG 211	4
BA 243	4
GEN ED - NAT SCI (GN)	3
MGMT 301*	3
MKTG 301*	3
GEN ED - KINESIOLOGY (GA)	1.5
Total	18.5

Semester 6

Course	Credits
STAT 200	4
ECON 4	3
GEN ED - NAT SCI (GN)	3
MATH 110	4
GEN ED - ARTS (GA)	3
BA 420*	1
Total	18

Semester 7

Course	Credits
SCM 301*	3
ENGL 419*	3
FIN 301*	3
BA 421*	2
BA 321*	3
IB 303*	3
GEN ED - KINESIOLOGY (GA)	1.5
Total	18.5

Semester 8

Course	Credits
BA 422W*	3
BA 496 (Internship)*	6
BA 322*	3
GEN ED - HUMANITIES (GH)	3
BUSINESS ELECTIVE*	3
Total	18

*Must be completed with a grade of C or better

	Credits
2IST Networking Option	63
BBACC	73
Total Credits	136

Appendix A7. 4-IST Information Technology Integration Option

4-IST Information Technology Integration Option (IT-TINT)

Semester 1		Credits	Semester 2	
Course	Credits		Course	Credits
IST 110*	3		IST 210*	4
IST 111	1		IST 220*	3
GEN ED - HUMANITIES (GH)	3		MATH 22	3
ENGL 015 (GWS)	3		CAS 100	3
GEN ED - NAT SCI (GN)	3		FOREIGN CULTURE (IL)	3
MATH 21	3			
Total	16		Total	16
Semester 3		Credits	Semester 4	
Course	Credits		Course	Credits
STAT 200 (GQ)	4		SUPPORT OF OPTION	3
GEN ED - HUMANITIES (GH)	3		GEN ED - ARTS (GA)	3
MATH 110 or 140+ (GQ)	4		ECON 002,004, 014 (GS)	3
ENGL 202C or 202D	3		CMPS 101*	3
			IST 230	3
Total	14		Total	15

2-Year IST in Networking Complete

Semester 5		Credits	Semester 6	
Course	Credits		Course	Credits
IST 301	3		IST 331	3
IST 302	3		IST 420	3
IST 240	3		GEN ED - NAT SCI (GN)	3
FOREIGN LANG. 1	4		FOREIGN LANG. 2	4
GEN ED - SOC/BEHAV SCI (GS)	3		GEN ED - ARTS (GA)	3
Total	16		Total	16
Semester 7		Credits	Semester 8	
Course	Credits		Course	Credits
IST 402	3		IST 440W	3
IST 421	3		SUPPORT OF OPTION	3
GEN ED - KINESIOLOGY (GHA)	3		SUPPORT OF OPTION	3
FOREIGN CULTURE (IL)	3		SUPPORT OF OPTION	3
FOREIGN LANG. 3	4		GEN ED - NAT SCI (GN)	3
Total	16		Total	15

	Credits
IST 495 (Taken any time)	1
OR	
IST 295 (Taken any time)	2

*Must be completed with a grade of C or better

+ Course has prerequisite

++ **NOTE:** At least one GEN ED course must carry an "US" designation

Course offered by Penn State New Kensington campus using

Blue Adobe Acrobat Connect Professional

Appendix A8. 4-IST Information Technology Integration Option

2-Year Networking Option + 4-IST Information Technology Integration Option (IT-TINT)

Semester 1		Credits	Semester 2		Credits	
Course	Credits		Course	Credits		
IST 110*	3	137	IST 210*	4		
IST 111	1		IST 220*	3		
IST 250	3		MATH 22	3		
MATH 21	3		CAS 100	3		
ENGL 015 (GWS)	3		FOREIGN CULTURE (IL)	3		
GEN ED - NAT SCI (GN)	3		GEN ED - HUMANITIES (GH)	3		
Total	16		Total	19		
Semester 3			Credits	Semester 4		Credits
Course	Credits			Course	Credits	
IST 225	3			IST 227	3	
IST 226	3			IST 228	3	
IST 260W	3			ECON 002,004, 014 (GS)	3	
GEN ED - ARTS (GA)	3			CMPSC 101*	3	
ENGL 202C or 202D	3		IST 230	3		
MATH 110 or 140+ (GQ)	4		Total	15		
Total	19					

2-Year IST in Networking Complete

Semester 5		Credits	Semester 6		Credits
Course	Credits		Course	Credits	
IST 301	3		IST 331	3	
IST 302	3		IST 420	3	
IST 240	3		GEN ED - NAT SCI (GN)	3	
FOREIGN LANG. 1	4		FOREIGN LANG. 2	4	
GEN ED - SOC/BEHAV SCI (GS)	3		STAT 200 (GQ)	4	
Total	16		Total	17	
Semester 7		Credits	Semester 8		Credits
Course	Credits		Course	Credits	
IST 402	3		IST 440W	3	
IST 421	3		SUPPORT OF OPTION	3	
GEN ED - KINESIOLOGY (GHA)	3		SUPPORT OF OPTION	3	
FOREIGN CULTURE (IL)	3		GEN ED - ARTS (GA)	3	
FOREIGN LANG. 3	4		GEN ED - NAT SCI (GN)	3	
Total	16		GEN ED - HUMANITIES (GH)	3	
			Total	18	
		Credits			
IST 495 (Taken any time)	1				
OR					
IST 295 (Taken any time)	2				

*Must be completed with a grade of C or better

+ Course has prerequisite

++ **NOTE:** At least one GEN ED course must carry an "US" designation

Blue Course offered by Penn State New Kensington campus using Adobe Acrobat Connect Professional

Appendix B. IST Courses

IST 110: Introduction to Information Sciences and Technology

- Introduction to information systems including social implications, and the creation, organization, analysis, storage, retrieval, and communication of information.

IST 111: Seminar in IST

- Introduction to academic requirements, career planning, and information literacy for students majoring in the School of Information Sciences and Technology.

IST 210: Organization of Data

- Introduction to concept of databases including the storage, manipulation, evaluation, and display of data and related issues.
- Prerequisite: IST 110

IST 220: Networking and Telecommunications

- Introduction to digital network topologies; transmission media; signal modulation; digital packet switching and routing; systems integration; communications management; security.
- Prerequisite: IST 110

IST 225: PC Hardware Basics

- Preparation for PC hardware support; students learn data recovery and how to build, configure, upgrade, troubleshoot, diagnose, and repair PC's.
- Prerequisite: IST 220

IST 226: Networking Essentials

- Concepts for peer-to-peer and server-based network; ISO-OSI reference model, industry standards, troubleshooting, performance monitoring, optimization.
- Prerequisite: IST 220

IST 227: Network Administration

- Administering peer-to-peer and client/server networks; planning, installation, server configuration, resource management, remote access, performance monitoring, and optimization.
- Prerequisite: IST 226

IST 228: Advanced Network Administration

- TCP/IP planning, installation, configuration; IP addressing, subnetting, routing, DHCP, WINS, address/name resolution, DNS; database, web, mail server management.
- Prerequisite: IST 226

IST 230: Language, Logic, and Discrete Mathematics

- Introduction to formal languages, mathematical logic, and discrete mathematics, with applications to information sciences and technology.
- Prerequisite: Math 110 or Math 140.

IST 240: Introduction to Computer Languages

- Introduction to the specification and application of languages and language paradigms which interact with computers. Prerequisite
- CMPSC 101; prerequisite or concurrent: IST 230.

IST 250: New Media and the Web

- Introduction to how the world wide web utilizes emerging technologies. Students acquire conceptual understanding of constructing web sites.
- Prerequisite: IST 110 or concurrent enrollment

IST 260W: Introduction to Systems Analysis and Design

- Introduction to systems analysis and design stressing the process of requirements acquisition, specification, design, and implementation.
- Prerequisite: IST 110

IST 295A: Distributed Team Project

- Supervised experience where teams of students work on information system design projects gathered from industry or units within the university.
- Prerequisite: IST 110

IST 295B: IST Internship

- Supervised work experience where the student is employed in an information science and technology position in industry, government, or academia.
- Prerequisite: IST 110

Appendix C. Recourses

C1: Software List

Below is a list of software used in the IST LABs.

Operating systems	Software
Microsoft Windows Vista	Microsoft Office XP PRO w/ FrontPage
Microsoft Windows 2003 Server	Microsoft Office 2000 PRO w/ FrontPage
Microsoft Windows XP Pro	Microsoft Project 2002, 2003
Microsoft Windows 2000 Server	Microsoft Visio Pro 2002, 2003
Microsoft Windows 2000	Microsoft Visual Studio 6.0
Microsoft Windows ME	Microsoft Visual Studio .net
Microsoft Windows 98SE	Symantec Ghost 7.5
Microsoft Windows NT	Symantec Ghost 7.0
Free BSD	RouterSim CCNA Sim 3.2
Red Hat Linux	Back Office Server 2000
Mandrake Linux	3Com Boot Services 1.02
Susie Linux	Linksys Tech Helper
	Power DVD 2000
	Systemax System Driver 1.32
	Ultra Recovery 5.0.5
	UM Server Extensions
	Terminal Services
	lomega Ware
	Roxio CD Creator
	NetFinity 5.0.5 Server Setup
	Oracle 9i
	NetCracker Professional 4.1
	Network Visualizer 4.0
	Microsoft Exchange Server 2000 and 2003
	Microsoft SQL Server 2000 and 2005
	Nero Burning ROM
	GIS - ArcView 9
	Microsoft Business Solutions-Retail Management System
	Microsoft Business Solutions-Great Plains
	Project Server 2003
	Visual Studio 2005 Professional Edition
	Virtual Server 2005

Most of the software is available through the MSDN Academic Alliance program. Being enrolled in a Penn State IST program allows students to download and install a selected list of software at home for coursework purposes. The list of software is available at the following website: http://msdn07.e-academy.com/psu_db

C2: Workstation List

Quantity	Description
21	Systemax
50	Dell Optiplex GX270
2	Dell DimensionXPS B800r
4	IBM Netfinity
4	Rack mount servers
21	HP Tablet PC
15	IBM PC 300GL (used for breakdown machines)
1	Server class machine made from acquired parts
3	Dell Laser W5300 Printer
1	HP LaserJet 5Si Mx Printer

C3: Network Hardware List

Quantity	Description
1	Linksys 8-port Router
2	Cisco 2600 series modular switch
3	Cisco Catalyst 2950 series switch
2	10/100M Unmanaged 8 Port Switch
5	3Com Superstack 2 24-Port
2	8 port unmanaged mini hub
4	Unmanaged 8 port + 1 fiber
4	4 Allied Telesyn 11mbps wireless LAN PC card IEEE 802.11b
1	Allied Telesyn Wireless access point IEEE 802.11b
1	D-Link AirPlus DWL-2000AP Xtreme G 54Mbps Wireless Access Point IEEE 802.11g
2	Cisco PIX 501 Security Appliance (DES 10-User)
1	Allied Telesyn fire wall: 24 port 10/100TX layer 3 switch
3	Linksys EtherFast Cable/DSL Router with 4-port switch
3	Netgear RP614 4-Port Cable/DSL Web Safe Router
3	D-Link DI-604 Express Ethernet 4-port Broadband Router
1	Microsoft Broadband Network Ethernet Base Station
1	U.S. Robotics Broadband Router
12	Allied Telesyn 24 Port Hub
5	Allied Telesyn 12 Port Hub
2	Linksys 10/100 8-Port VPN Router

C4: Other Equipment List

Quantity	Description
2	GPS Receivers
7	KVM Switches
1	PCI Diagnostic Card

C5: Other Resources

ITS Free Technology Seminar Handouts

ITS Training Services provides learning opportunities in technology to students, faculty, and staff to facilitate learning, teaching, and professional development activities. ITS provides handouts to some of those seminars for free. The website for these handouts is as follows:
<http://its.psu.edu/training/resources/handouts/index.html>

Appendix D. Job Titles

Advanced Engineering Aide
Assistant Network/Systems Administrator
Client Services Analyst
Computer Network Technician
Data Center Technician
Desktop Support
Field Technician
Field Technology Analyst
Help Desk Analyst
Help Desk Representative
Help Desk Specialist
Help Desk Support
Help Desk Support Specialist
Help Desk Technician
Help Desk/PC Technician
I.S. Tech Specialist/Network Administrator
IT Business Analyst
IT manager & design specialist
IT Support
IT Support Center Representative
Junior Network Administrator
Junior Network Engineer
Junior Systems Administrator
LAN/WAN Engineer
Micro/PC Technician
Network Administrator area
Network Communications Analyst
Network Support Technician
PC Hardware Technician
PC Install Technician
PC Specialist I
PC Support Technician
PC/Software Support
PC/Software Test Technician
Quality Assurance Technician
Software & Technical Support Specialist
Technical Service Representative
Technical Support Representative
Technical Support Specialist
Windows Applications Specialist

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